Remarks

Claims 2-11, 26-29, 35, 37 and 39-42 are pending. Claim 1 has been amended to a more easily readable format.

The Examiner found the arguments submitted October 10, 2005 in the Brief on Appeal to be persuasive, and has therefore withdrawn the previous rejection of claims 2-11, 26-29, 35, 37 and 39-42 under 35 USC § 103(a) over U.S. Patent Number 5,783,303 to Tsuei ("Tsuei") in view of U.S. Patent Number 3,937,640 to Tajima et al. and U.S. Patent Number 5,484,477 to George et al. ("George").

§ 103 Rejections

As a new ground of rejection, the Examiner has rejected claims 2-11, 26-29, 35, 37 and 39-42 under 35 USC § 103(a) as being unpatentable over Tsuei in view of George and U.S. Patent Number 6,238,794 to Beesley et. al. ("Beesley").

The Examiner states that Tsuei discloses an article with a plurality of ceramic granules bonded to a polymeric film by a radiation curable aliphatic urethane acrylic copolymer for use as part of anti-slip products or coatings for abrasive articles. The Examiner acknowledges that Tsuei fails to teach the article being a roofing shingle or a roll of roofing material with a film, wherein the integrated granule product forms the exposed surface layer of a roofing material and wherein the integrated granule product is suitable as an exposed surface layer of a roofing material. The Examiner has also conceded that Tsuei fails to disclose ceramic coated granules.

The Examiner asserts that George teaches integrated granule products made with ceramic coated slate base granules that are covered with a thin film composition, where the granules are adhered to the asphalt surface of a shingle backing by the thin film coating for the purpose of forming a weather-resistant, fire-resistant decorative exterior surface on a roofing shingle.

Beesley is cited by the Examiner as teaching ceramic coated granules, an inorganic base substrate in granular form having a coating which includes an amount of an alkali metal binder sufficient to bind the coating to the inorganic granule, the article being a roofing shingle, wherein the integrated granule product is suitable as an exposed surface layer of a roofing material and biocide containing an algaecide for the purpose of forming a shingle having particles that provide a greater resistance to fading.

The Examiner's position is that it would have been obvious to one of ordinary skill in the art to have provided the thin film coating of Tsuei on the roofing membrane of George, "since George shows the use of a thin film on the roofing membrane." The Examiner also takes the position that it would have been obvious to have provided the ceramic coated particles of Beesley instead of the particles of Tsuei, since the particles provide a greater resistance to fading.

Applicants note initially that the Beesley et al. U.S. Patent No. 6,238,794 issued on May 29, 2001, after the filing date of this application, and that Beesley and the invention claimed in this application were, at the time the claimed invention was made, owned by the same person. Both applications were assigned to 3M Innovative Properties Company. Thus, under 35 U.S.C. 103(c)(1), the Beesley et al. U.S. Patent No. 6,238,794, which qualifies as prior art only under subsection (e) of section 102, cannot preclude patentability under section 103. In any event, the claimed invention is not rendered unpatentable by the disclosures of Tsuei, Beesley, and George.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicant's disclosure.

The rejection of the claims as obvious in view of Tsuei, Beesley, and George is respectfully traversed. The invention as defined in claim 26 is an article comprising an integrated granule product bonded to a roofing material substrate, the integrated granule product comprising a film having a plurality of ceramic coated granules bonded to the film by a cured adhesive, the film being bonded to the roofing material substrate. None of the references teach an integrated granule product comprising a film having a plurality of ceramic coated granules bonded to the film by a cured adhesive bonded to a roofing material substrate, as recited in claim 26.

As noted at page 1 of the specification, "[r]oofing products are generally flat or sheet-like materials that can be arranged on a roof to prevent weather, e.g., wind, water, etc., from entering a roof structure. A roofing product can also serve to reflect heat energy from a roof. The roofing

product should be durable enough to perform these functions for a number of years." In addition, the roofing granules are generally colored to provide a desired aesthetic value upon application of the roofing product onto a building. Moreover, "[c]onventional roofing products, such as shingles, are often susceptible to weather related damage that can either tear the base substrate or adversely affect the bond of the granule in the asphalt-based substrate. The release of the granules from the base permits the passing of light through to the asphalt. The light can degrade the asphalt and may cause premature failure of the roofing product." Further, "the asphalt-based substrate can adversely affect the aesthetics of the coated granules applied onto the substrate."

For all of these reasons, as concluded at page 1 of the specification, "[i]t would be an advantage to provide a roofing product that is capable of withstanding severe weather conditions and capable of preventing the degradation of the underlying asphalt-based substrate. It would also be an advantage to provide a roofing product that prevents the discoloration of granules when applied onto an asphalt-based substrate."

These same considerations, however, are **not** applicable to anti-slip or abrasive articles; the two simply do not have the same purposes in the context of the present invention. Accordingly, nothing would motivate one of skill in the art to take an element from the abrasive arts, namely curing abrasive grains to a film, from Tsuei and use them on a roofing shingle. The abrasive grains in Tsuei are attached to a film for use as an anti-slip or abrasive article. One looking at Tsuei would not then take the disclosure for use in a roofing material.

Furthermore, nothing in George teaches securing a film, the film having granules bonded thereto, on a roofing material. As argued previously, the granules of George are not in a polymer film. That is, George does not teach "a film having a plurality of ceramic coated granules bonded to the film by a cured adhesive," as required by claim 26. Instead, George teaches applying a "thin film" of a dust reducing coating composition to individual granules. George notes that, "[p]referably, the thin film coating is continuous over the base granule surface, but it can be, and usually is, discontinuous. It is preferred that at least 50 percent of the roofing granule surface be coated with the thin film." Column 7 lines 10-15. Reviewing the test procedures at columns 11 and 12 of George confirm that the individual granules are coated, and then the coated granules are "sprinkled onto the top surface of the asphalt." See, e.g., column 11 lines 19-21. George is devoid of any suggestion of the use of a film having a plurality of ceramic coated granules

bonded to a film by a cured adhesive, and bonding that film to a roofing material substrate. George coats each individual granule with a composition for reducing dust that may optionally include an adhesion promoter "to an extent sufficient to promote granule adhesion to an asphalt-based shingle substrate." Column 7 lines 50-53.

Beesley is directed to a fade resistant black coating for roofing granules that preferably includes an alkali metal silicate binding agent. The composition of Beesley includes a plurality of carbon black pigment particles having a relatively large mean particle size, imparting a black color to the coating that exhibits an increased resistance to fade. As discussed above with regard to Tsuei and George, nothing would motivate one of skill in the art to take an element from the abrasive arts, namely curing abrasive grains to a film, from Tsuei and use them on a roofing shingle. The record must provide a teaching, suggestion, or reason to modify the prior art, the lack of which is dispositive in an obviousness determination. *Gambro Lundia AB v. Baxter Healthcare Corp.*, 110 F.3d 1573, 1578-79, 42 USPQ2d 1378, 1383 (Fed. Cir. 1997).

Further, the roofing granules of Beesley are applied directly to a bituminous coated shingle base material. Beesley is devoid of any suggestion of the use of a film having a plurality of ceramic coated granules bonded to the film by a cured adhesive, and bonding that film to a roofing material substrate, and fails to supply any of the deficiencies of George in this regard.

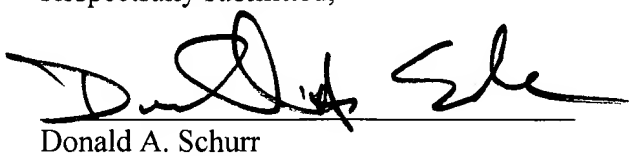
Thus, the cited references do not establish a case of *prima facie* obviousness of the invention as defined in claim 26. Claims 2-11, 26-29, 35, 37 and 39 depend, either directly or indirectly from claim 26. These claims are patentable at least on the basis of their dependence from a patentable base claim.

Claim 40 defines an article comprising an integrated granule product bonded to an asphalt-based substrate, said integrated granule product comprising a film having a plurality of ceramic coated granules bonded to said film by a cured adhesive. There is no motivation to combine Tsuei with the asphalt-based substrates of either George or Beesley, for all of the reasons discussed above. Moreover, none of the cited references teach or suggest an integrated granule product bonded to asphalt-based substrate, the integrated granule product comprising a film having a plurality of ceramic coated granules bonded to said film by a cured adhesive. Accordingly, claim 40, along with claims 41 and 42 that depend therefrom, are patentable over the art of record.

For these reasons, the rejection of claims 2-11, 26-29, 35, 37 and 39-42 under 35 USC § 103(a) as being unpatentable over Tsuei in view of George and Beesley has also been overcome and should be withdrawn.

In view of the above, it is submitted that the application is in condition for allowance. Reconsideration of the application is requested.

Respectfully submitted,



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